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**“CHALLENGES IN ENVIRONMENTAL PROTECTION AND SUSTAINABLE USE
OF NATURAL RESOURCES”**

Sub-Theme: Water Resource Management

(Oral Presentation)

**The Challenges and Opportunities for Balancing Water Demands in Irrigated
Agriculture and Wildlife Conservation: The Case of Usangu Basin in Tanzania**

**Reuben M.J. Kadigi¹, Deo-Gratias M. Gamassa², Freddy S. Manongi², Pius F. Malata², Baker M.
Masuruli² and Baldwin J. Mwakamela²**

¹ RIPARWIN Project, Soil-Water Management Research Group (SWMRG), Sokoine University of
Agriculture, P.O Box 3003, Morogoro/Tanzania.

² College of African Wildlife Management (CAWM), Mweka, P.O Box 3031, Moshi/Tanzania.

Abstract

As in other parts of the world, water scarcity in Usangu basin is becoming rampant, largely attributed to increasing human population and over-abstraction of water resources by upstream irrigators. This has of recent caused serious water shortages downstream [including the fragile ecosystems in the Ruaha National Park (RNP)]. Tourism in the park has also suffered due to death of animals caused by the drying up of the Great Ruaha River (GRR). Consequently, the government of Tanzania has committed its support for a program to ensure that the GRR has a year-round flow by 2010. The program aims at integrated comprehensive approaches towards resource planning, development and management. In line with this program is the challenge of balancing irrigated agriculture in the manner that it produces more “crops per drop”, utilizes less water and releases adequate water for other intersectoral needs. This paper presents a trade-off analysis between irrigated agriculture and wildlife conservation in Usangu basin. It also explores the “opportunity windows” for balancing water demands between the two sectors. The findings in this paper show that irrigated paddy remains the most important economic activity in Usangu basin currently supplying about 14.4% of the national annual rice production. The same consumes about 576 Mm³ of irrigation water per annum, out of which 60% or 345.6 Mm³ is inter-regionally traded outside the basin as “virtual water.” The value of irrigation water in this activity is estimated at 0.18kg of paddy or Tsh 28.13 (US \$ 0.027) per cubic meter. Improving its water use efficiency by 13 - 17% would release about 6 - 8 cumecs of water downstream to the RNP, which is considered adequate enough to maintain the minimum annual flow in the park. However, a number of actions need to be done. These include: raising awareness among water users, promoting good practices and mobilizing the energy and participation of the local communities in sustainable water resource management and wildlife conservation.

¹ Corresponding author: Tel.: + 255 (0)23 2601206; Mobile: + 255 (0)744 645157; Fax: + 255 (0)23 2604649; E-mail: mjkadigi@yahoo.co.uk